

Claims

SUB A, 7 1. Method for hot dip galvanizing of hot-rolled steel strip, wherein:

- in a first method step, the strip (50) is introduced into a pickling station (10-13) and a layer of scale and reaction products are removed from the strip surface in the pickling station,

- in another method step, the strip (50) is introduced into a rinsing station (21-23) and residues of the pickle and pickling products are removed from the strip surface in the rinsing station, and subsequently

- the strip is introduced into a drying station and is dried, and from there

- in another method step, the strip is introduced into a furnace (40) and is adjusted to galvanizing temperature under a protective gas atmosphere, and

- in a last method step, the strip is guided through a galvanizing bath and the surface of the strip (50) is coated with a hot dip galvanizing layer in the galvanizing bath,

characterized in

that the strip temperature in the furnace (40) is adjusted at most to 50 °K above immersion temperature into the zinc bath.

2. Method according to claim 1, characterized in

that the H₂ concentration in the furnace (40) is adjusted to at most 20 %, preferably to less than 5 %.

3. Method according to claims 1 or 2, characterized in that the method steps between the last rinsing stage (23) of the rinsing station (20) through the drying station (30) up to the inlet (43) of the furnace (40) are carried out hermetically screened from ambient oxygen from the surroundings.

4. Method according to claims 1, 2, or 3, characterized in that a water-repellent or water-binding medium (25) which wets the strip (50) is introduced into the last rinsing stage (23) of the rinsing station (20).

5. Method according to claim 4, characterized in that the medium (25) introduced into the third rinsing stage (23) is NH_3 or a solution containing NH_3 .

6. Method according to one or more of claims 1 to 5, characterized in that drying of the strip (50) in the drying station (30) is carried out without the supply of air from the outside by means of heat radiation with the addition of a mixture of nitrogen, hydrogen and ammonia gas (N_2/NH_3) + H_2 or another mixture of two of the mentioned gases.

7. Hot dip galvanizing plant, comprising a pickling station (10), a rinsing station (20), a drier (30), a furnace (40) and a subsequent hot dip galvanizing bath (60) characterized in

that the outlet of the last rinsing stage (23) of the rinsing station (20) is connected to the inlet of the drier (30) and the outlet of the drier is connected to the inlet (43) of the furnace (40) through locks (70, 80) and the connections are hermetically sealed from the ambient atmosphere.

8. Installation according to claim 7, characterized in
that the rinsing stages (21-23) and the heating stage (41) and the heating stage (42) are screened from each other by intermediate walls (24).

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